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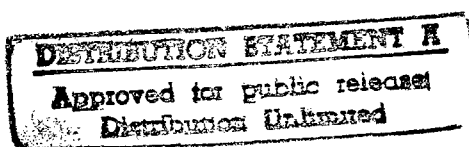
United States General Accounting Office

Report to the Ranking Minority Member,
Committee on Governmental Affairs,
U.S. Senate

January 1998

FINANCIAL MANAGEMENT

Seven DOD Initiatives That Affect the Contract Payment Process



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Accounting and Information
Management Division

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January 30, 1998

The Honorable John Glenn
Ranking Minority Member
Committee on Governmental Affairs
United States Senate

Dear Senator Glenn:

This letter is in response to your request that we provide information on seven technological initiatives that the Department of Defense (DOD) has identified as key elements of its efforts to improve the contract payment process. DOD has long recognized weaknesses in its contract payment process and has hundreds of efforts under way to improve its contract payment and other disbursement processes. In his November 1997 Defense Reform Initiative Report, the Secretary of Defense stated that the department must adopt and adapt the lessons of the private sector if America's armed forces are to maintain their competitive edge in the rapidly changing global security arena. In adopting the best business practices of the private sector, the Secretary established a goal that by January 1, 2000, all aspects of the contracting process for major weapons systems will be paper free. The seven technology initiatives described in this report are intended, in part, to help meet this goal.

As of August 1997, DOD reported that its contract payment center in Columbus, Ohio, was administering about 382,000 contracts with a total value of \$857 billion. For fiscal year 1997, the Columbus center processed about 1.2 million payments totaling about \$69 billion. As of September 30, 1997, DOD had at least \$22.7 billion¹ in disbursing problems.² As part of our 1997 high-risk series, we identified defense contract management, which includes contract payment, as one of 25 high-risk areas in the federal government.³

Results in Brief

The descriptive information presented in this letter highlights several areas of concern that could prevent DOD from meeting its goal of a

¹This figure includes in-transit transactions. As we previously reported, DOD has removed this category of problem disbursements from its problem disbursement totals. See DOD Problem Disbursements (GAO/AIMD-97-36R, Feb. 2, 1997).

²We have previously reported that DOD's problem disbursement reporting has not been accurate. See Financial Management: Improved Reporting Needed for DOD Problem Disbursements (GAO/AIMD-97-59, May 1, 1997).

³High-Risk Series: Defense Contract Management (GAO/HR-97-4, Feb. 1997).

paperless contracting process by the year 2000. For example, even if DOD successfully meets the current schedule, as of September 30, 1997, three of the four long-term initiatives are not scheduled for completion until the end of fiscal year 2001.⁴ In addition, the initiatives may not eliminate the weaknesses in the contract payment processing. As we have previously reported, although DOD has numerous initiatives under way to help resolve its disbursement and accounting problems, it has not performed the in-depth analysis necessary to fully determine the underlying causes of these problems and therefore identify the most effective solutions and rank specific reforms.⁵ As a result, as with its other initiatives, the extent to which these seven technology initiatives discussed in this letter will resolve DOD's long-standing disbursement problems is unclear. Even in a highly automated and paperless environment, proper payments can only be made by ensuring that accurate and complete data are available in the systems. For example, for some types of payments, unless provided with information that identifies the cost of work accomplished with the appropriate funding source, the new systems and databases will not have the information necessary to ensure that proper payments are made.

Objective, Scope, and Methodology

As you requested, the objective of this report is to provide a general description of three short-term⁶ DOD technology initiatives, which affect the current payment process, and four long-term initiatives, which are expected to change the way DOD currently does business. Although some of the initiatives include planned improvements to both contract and vendor payment processes, we focused on the contract payment process in this report. This report is limited to descriptive information on each of the initiatives and therefore does not address specific implementation or execution issues.

We reviewed the Joint Financial Management Improvement Program's Framework for Federal Financial Management Systems and the Office of Management and Budget's (OMB) Circular A-127 to determine federal financial systems requirements. To determine the current DOD contract payment process, we reviewed DOD documents that discussed how DOD is organized, identified the various activities involved in the process, and

⁴In commenting on a draft of this report, DFAS officials said that one of these three systems will not be completed until April 2002.

⁵Financial Management: Improved Management Needed for DOD Disbursement Process Reforms (GAO/AIMD-97-45, Mar. 31, 1997).

⁶We use the term "short-term" initiatives to describe those initiatives that are currently being developed and are in use to some degree. "Long-term" initiatives refer to four of DOD's major target initiatives that are being planned or are under development to provide fully integrated computer systems.

collected data on the number and dollar value of contracts. We also reviewed DOD reports that addressed problems inherent in the contract payment process. To accumulate information on the seven initiatives, we reviewed DOD documents that (1) identified how the planned initiatives would streamline and improve DOD's payment processes and (2) discussed the status and interrelationship of the initiatives. Given the overall assignment objectives and the descriptive nature of our report, we did not verify the data in the DOD reports.

In addition, we interviewed headquarters and field office officials, including the program managers for each of these initiatives, to determine the current DOD contract payment process and obtain updated information on each initiative. We performed our work at DOD headquarters, Pentagon, Virginia; Defense Finance and Accounting Service (DFAS) headquarters, Arlington, Virginia; DFAS centers, Columbus, Ohio, and Indianapolis, Indiana; and Defense Logistics Agency (DLA) headquarters, Fort Belvoir, Virginia.

We performed our work from October 1996 through December 1997 in accordance with generally accepted government auditing standards.

We requested comments on a draft of this report from the Secretary of Defense or his designee. On January 20, 1998, DOD officials provided oral comments, which are discussed in the "Agency Comments and Our Evaluation" section of this report. Additional technical comments have been addressed as appropriate throughout the report.

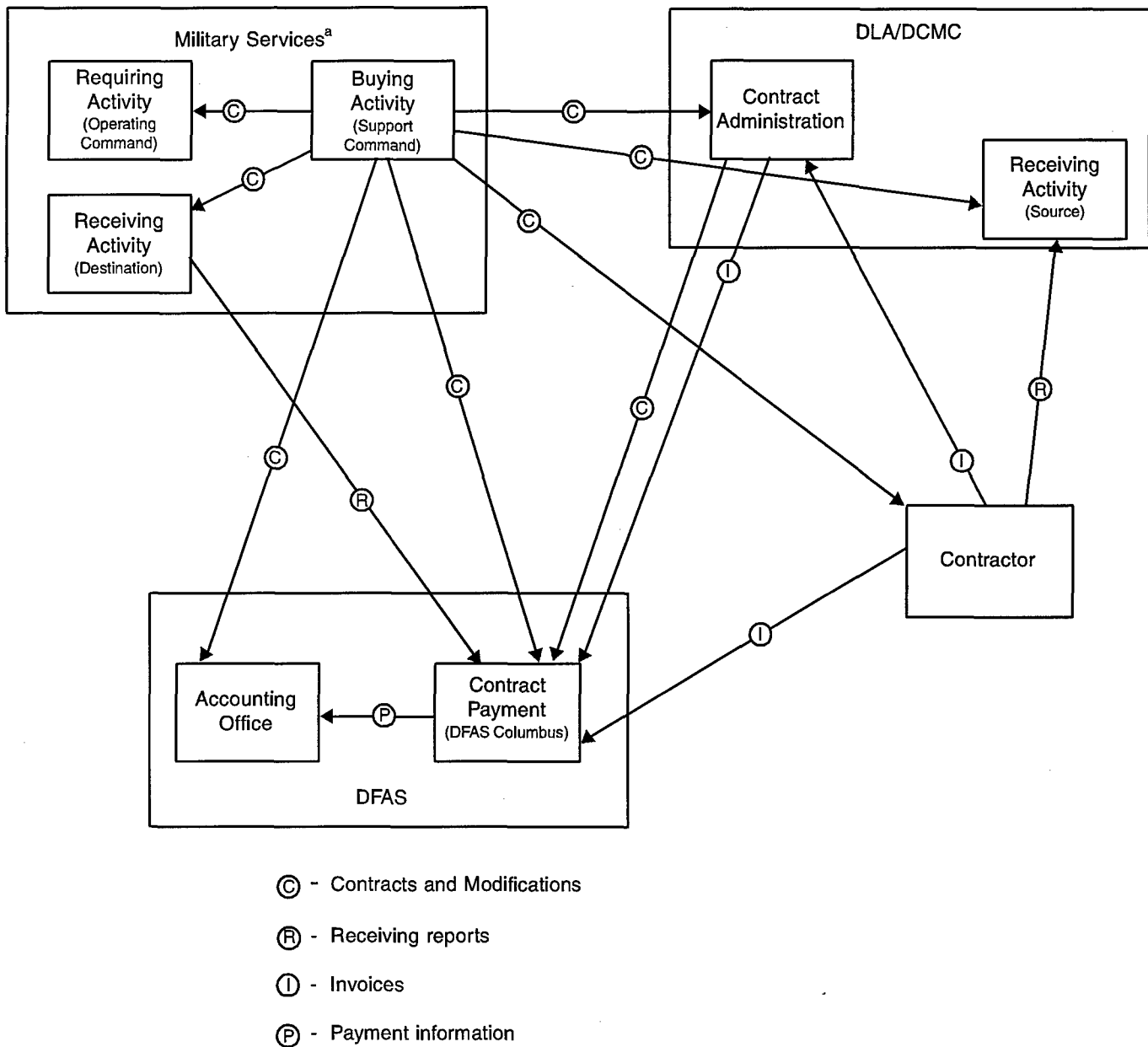
Background

The following sections describe DOD's current contract payment process, the controls necessary to ensure accurate contract payment, and DOD's long-standing problems with matching disbursements to corresponding obligations.

DOD's Current Contract Payment Process

Over time, DOD's contract payment and accounting procedures have evolved into the complex, inefficient processes that exist today. These processes span numerous DOD and contractor organizations operating incompatible procurement, logistics, and accounting systems. Currently, much of the data are shared using hard copy documents that must be manually entered into numerous systems or electronic data that still must be manually verified and entered into the system. Figure 1 illustrates the current paper flow for the contract payment process.

Figure 1: DOD's Current Contract Payment Process



DOD has numerous nonintegrated automated and manual systems that contain contract data. There are 150 accounting systems, 76 procurement writing systems, numerous logistics systems, and 1 contract administration and payment system—Mechanization of Contract Administration Services (MOCAS). Although only 5 percent of DOD's contractor and vendor invoices are processed and paid through MOCAS, these payments represent approximately 44 percent of the dollars paid by the department to contractors and vendors for fiscal year 1997. The remaining 95 percent of the invoices are primarily for vendor payments that are made by other disbursing offices.

Because of DOD's numerous nonintegrated computer systems, much of the data generated by procurement, logistics, and accounting systems cannot be electronically transferred among these systems, and therefore must be read, interpreted, and manually entered from hard copy documents. This duplicative manual entry of accounting data into the various systems is prone to keypunch errors, errors caused when data entry personnel are required to interpret sometimes illegible contracts, and inconsistencies among data in the systems.

In January 1991, DOD established the Defense Finance and Accounting Service to assume responsibility for DOD finance and accounting. DFAS' center in Columbus, Ohio, pays contracts administered by the Defense Contract Management Command (DCMC) of the Defense Logistics Agency. DCMC has post-award contract responsibility, which includes overseeing contractor progress, inspecting and accepting items, receiving and entering contractor delivery data, administering progress payments, negotiating contractor indirect costs, administering contract modifications, and negotiating final settlement proposals.

DFAS-Columbus uses MOCAS to compute contractor payments, while DCMC uses this system to maintain contract administration and payment data on its contracts. DFAS-Columbus makes two basic types of contract payments—delivery payments and financing payments. About two-thirds of all payments are delivery payments for goods and services; the balance are financing payments. Delivery payments are made upon receipt of products or services. Financing payments, such as progress payments, are made as contractors incur costs and submit billings.

The numerous parties involved in DOD's contract payment process may increase the opportunity to introduce errors. DOD has 1,400 separate buying activities, up to 64,000 receiving locations, over 25,000 contractors,

and 44 accounting offices,⁷ all funneling information to MOCAS. In addition, although MOCAS provides the accounting data used to control obligations and payments on these contracts, it does not maintain the official accounting records for the contracts. Instead, the official accounting records are kept at the 44 accounting offices located throughout the country. MOCAS records may differ from accounting office records because contract information, such as modifications, may not have been sent to or properly processed by both locations.

To help alleviate this problem, DOD recently completed implementation of a direct input initiative started in October 1994. As of June 30, 1997, administrative contracting officers at all DCMC sites were able to input contract information, including modifications, directly to MOCAS from their remote locations. However, direct input of contract modification information by the administrative contracting officers is intended to be a temporary initiative and is expected to eventually be replaced by some of the other technological initiatives discussed in this report.

Before making payments, DFAS-Columbus requires the matching of a number of key documents (such as the contract, the receiving report, and the invoice for delivery payments). However, problems often arise after payments have been made when the accounting offices, which maintain the official accounting records, cannot reconcile their obligation records to the payment information generated by MOCAS. DOD has instituted a prevalidation policy, which requires that before making a payment, DFAS-Columbus validate that sufficient funds are available from the appropriate obligation at the accounting offices. Prevalidation of payments made by MOCAS is required for expenditures of \$3 million or more for contracts dated prior to fiscal year 1997, and \$2,500 or more for contracts dated 1997 and later.

Concept of Contract Payment Financial Control

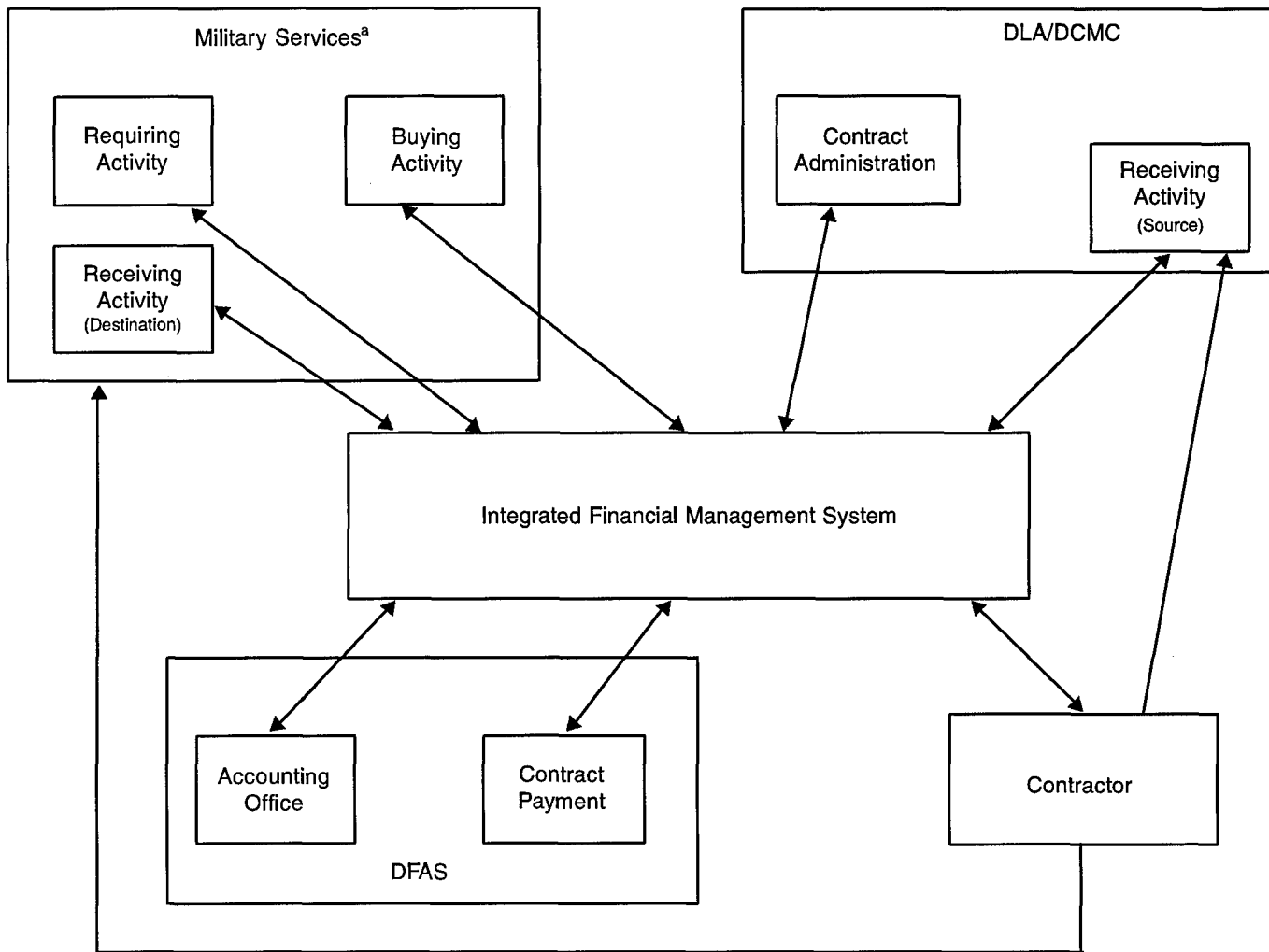
The financial management systems policy stated in OMB Circular A-127 requires that each agency establish and maintain a single, integrated financial management system. Having a single, integrated financial management system does not mean having only one software application covering all financial management system needs. Rather, a single, integrated financial management system is a unified set of financial systems and financial portions of mixed systems encompassing the software, hardware, personnel, processes (manual and automated),

⁷DOD is in the process of consolidating its accounting offices, which at one time numbered over 300. As of November 20, 1997, there were 22 small accounting offices (which will be closed during fiscal year 1998), 17 operating locations, and 5 accounting centers.

procedures, controls, and data necessary to carry out financial management functions, manage financial operations of the agency, and report on the agency's financial status to central agencies, Congress, and the public. Unified means that the systems are planned for and managed together, operated in an integrated fashion, and linked together electronically in an efficient and effective manner to provide the agencywide financial system support necessary to carry out the agency's mission and support the agency's financial management needs.

Figure 2 illustrates how, in the ideal environment, DOD could use integrated systems that share data among the procurement, logistics, and accounting functions to ensure financial control over the money spent for goods and services. For example, when a military service's requiring activity determines that goods or services are needed, such as a tank or aircraft, the system would make that information available to both the military service's buying activity and the DFAS accounting office. When the contract is issued, the military service buying activity, in turn, would provide that information through the system to the DLA receiving activity to expect the item as well as to the DFAS accounting office to obligate funds in the accounting systems. Throughout the procurement process, DLA contract administration personnel would monitor the contractor's progress to ensure that the contractor is meeting all cost and delivery requirements. As construction of the tank or aircraft progresses, or at final delivery, the contractor would submit bills to the contractor payment personnel. All contract-related data would be available to authorized users in an integrated financial management system.

Figure 2: Financial Control Over Contract Payments



^aThese activities are also performed by other DOD components.

DOD's Long-standing Disbursement Problems

DOD has acknowledged its long-standing problems with properly matching its disbursements to specific obligations. As of September 30, 1997, DOD had at least \$22.7 billion in problem disbursements.⁸ Its disbursement problems fall into three basic categories.

⁸See footnotes 1 and 2.

Unmatched disbursements - Disbursements and collections that have been received by the accounting office, attempted to be matched to an obligation, but have not been matched because an obligation was not identified in the accounting system.

Negative unliquidated obligations (NULOS) - Disbursements that have been received and posted to specific obligations by the accounting office but recorded disbursements exceed recorded obligations—more funds have been paid out than were recorded as obligated.

Aged in-transits - Disbursements and collections that have been reported to the Treasury but either have not been received by the accounting station or have been received but not processed or posted by the accounting office. DFAS considers in-transits to be aged if they have not been processed within 120 days, depending on the source of the transaction and the service processing the transaction.

As noted previously, much of the inefficiency and errors associated with DOD's contract payment process can be attributed to the lack of integrated computer systems that electronically link procurement, logistics, and accounting. Because the process is highly dependent on manual data entry, the information needed to make contract payments is plagued with timeliness and accuracy problems. The reliance on paper documents, which must be mailed to the proper location and stored for future reference, also adds to DOD's payment difficulties. For example, we previously reported that DFAS-Columbus files about 25,000 loose contract documents per week.⁹

DOD has hundreds of efforts under way to help resolve disbursement and accounting problems, including the seven technology initiatives discussed in this report. However, as we have previously reported, DOD has not performed the in-depth analysis necessary to fully determine the underlying causes of its disbursement and accounting problems and therefore identify the most effective solutions and rank specific reforms.¹⁰

Short-term Initiatives

The three short-term technology initiatives—electronic document management, electronic document access, and electronic data

⁹Contract Management: Fixing DOD's Payment Problems Is Imperative (GAO/NSIAD-97-37, Apr. 10, 1997).

¹⁰Financial Management: Improved Management Needed for DOD Disbursement Process Reforms (GAO/AIMD-97-45, Mar. 31, 1997).

interchange—are intended to move DOD's contract payment processes toward a paperless environment and reduce dependence on manual data entry. Although none of the initiatives significantly change the existing contract payment process, all are directed at providing more accurate and timely information or improving the processing of data at DFAS-Columbus. The lack of timely information and DFAS-Columbus' reliance on cumbersome paper processes have been cited as contributing factors to problem disbursements.

Electronic Document Management

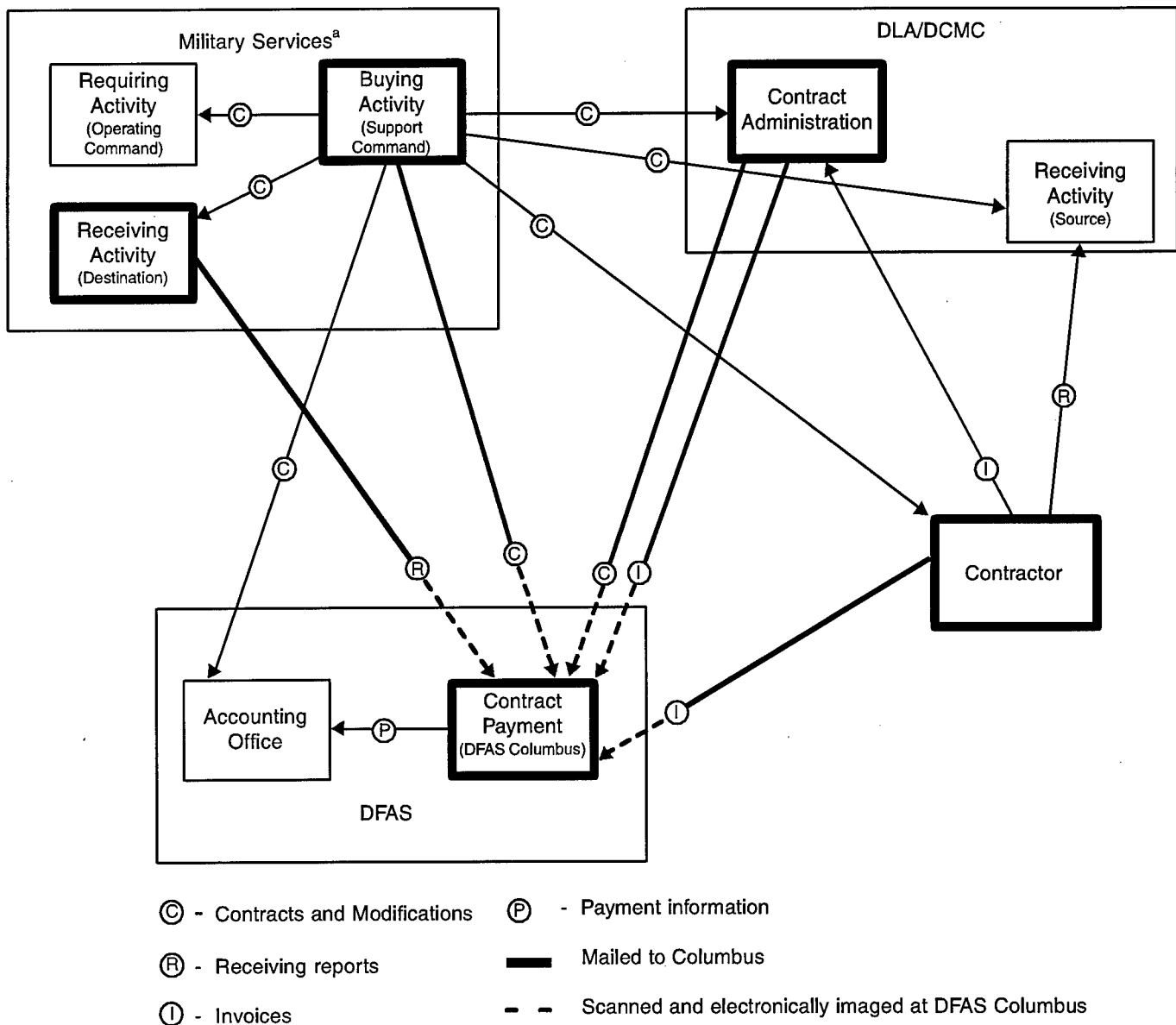
Electronic Document Management (EDM) is a technology initiative intended to convert paper copies of DOD contract payment documents to electronic images. The paper documents are received by DFAS-Columbus¹¹ from DOD's logistics and procurement communities and contractors. EDM's objectives are to reduce DFAS-Columbus' reliance on paper, increase its processing efficiency, and, as a result, reduce its operating costs. As we stated in our April 1997 report,¹² DFAS-Columbus' paper-dependent workflow has frequently led to misrouted and misplaced paper documents. This condition delays payments and further increases processing costs.

As shown in figure 3, contracts, modifications, receiving reports, and invoices, which are received as paper documents, are scanned by DFAS-Columbus employees and stored as electronic images for DFAS-Columbus use.

¹¹Although EDM is also being developed and implemented at other DFAS centers and operating locations for vendor pay and garnishments of wages, we concentrated our efforts on EDM's deployment at DFAS-Columbus' contract payment facility.

¹²GAO/NSIAD-97-37, April 10, 1997.

Figure 3: Electronic Document Management



EDM has three basic components: document imaging, electronic foldering, and workflow processing. All paper documents received by DFAS-Columbus, such as contracts, invoices, and receiving reports, will be scanned and converted to electronic images—similar to photographs—and stored in an EDM database at DFAS-Columbus. Once stored, these images can be retrieved and viewed by DFAS-Columbus personnel. Because this initiative was implemented for DFAS-Columbus as a way of relieving its dependence on paper documents, the technology needed to view the scanned documents is only available at DFAS-Columbus for its EDM database.

Since these electronic images are essentially “pictures” of the original paper documents, the data entry personnel can only view these documents the same way they would look at a piece of paper. Thus, the data entry personnel must still view these “images” on their computers to obtain the data needed to process the payment and then manually enter those data into MOCAS.

The electronic foldering component allows contract, invoice, and other related documents to be associated together for quick electronic retrieval. For example, the system would be able to associate all documents for a particular contract by a unique contract number and then retrieve all documents relating to that contract, eliminating the need for multiple manual searches.

The workflow processing component helps to manage workload distribution by (1) automatically directing the electronic document to the appropriate processing technician and (2) tracking the progress of each document through the contract administration and payment process. This component, along with the foldering component, is expected to significantly reduce the time spent on manual voucher processing, which is necessary when MOCAS is unable to complete an automated verification of certain payment data. In 1997, approximately 45 percent of all invoices had to be processed manually. As we reported in April 1997, manual processing can cost up to seven times more than an automated payment. This increased cost is due to the time spent by DFAS-Columbus employees manually retrieving, verifying, and matching payment data to various records (invoices, purchase orders, receiving documents, DFAS-Columbus obligation records, or accounting office records) for these payments. Reductions in time are expected to result from employees being able to locate the needed documents more readily. These documents, once entered into the EDM database, will always be available for viewing, thus

mitigating the problems associated with lost and misplaced documents within DFAS-Columbus. In addition, EDM also allows multiple employees at DFAS-Columbus to concurrently view a single electronic document.

DOD's 1996 Chief Financial Officer Financial Management Status Report and Five Year Plan states that the objective of EDM is to reduce operating costs. This affects DFAS-Columbus in a number of ways, such as, reducing the volume of paper; eliminating the need for paper storage; reducing document handling, copying, and manual retrieval; and reducing personnel requirements.

Electronic Data Systems is developing EDM under a 5-year contract awarded in September 1994. EDM is being implemented at DFAS-Columbus for contract pay in one of its 11 operating divisions. Initial operational testing is expected to be completed in March 1998. According to the DFAS program manager for EDM, as of September 30, 1997, the program development and implementation is expected to be completed by the end of fiscal year 1999 at a cost of approximately \$115 million. The \$115 million reportedly includes EDM development and deployment costs for both contract and vendor pay processes, as well as for garnishment of wages. According to an EDM official, the DFAS-Columbus contract pay portion is expected to cost \$33 million.

Electronic Document Access

In contrast to EDM, which begins with paper documents that are then captured as electronic images, the Electronic Document Access (EDA) initiative is designed to eliminate the original paper documents and capture these documents as electronic images from the beginning. Documents, such as contracts and contract modifications, are originally captured as a print file, similar to saving a word processing file on disk, and then converted to an electronic image for storage in the EDA database. These documents can then be accessed and viewed by authorized accounting, procurement, and logistics personnel on DOD's computer network, the Non-Classified Interactive Processor Router Network (NIPRNET). This accessibility contrasts with documents scanned using EDM technology, which are only available to DFAS-Columbus personnel.

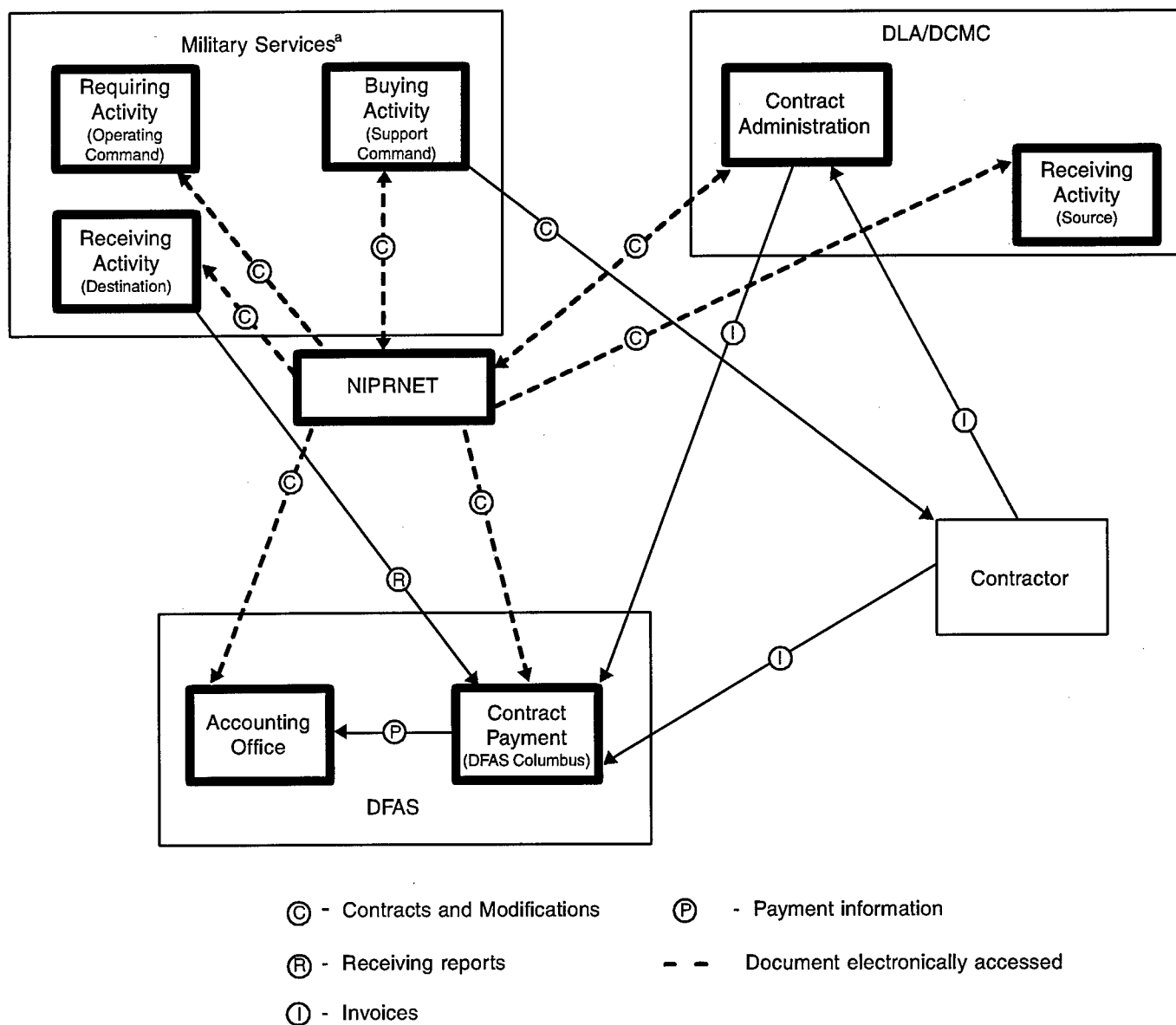
EDA is being developed under the EDM program as an alternative to having DOD activities produce paper documents. EDM officials indicated that the expanded use of EDA by DOD will eventually reduce the need for the imaging component of EDM. EDA is expected to significantly reduce the amount of time spent mailing and distributing paper contracts and

contract modifications.¹³ It is also expected to eliminate both document loss and delays that can result from mailing and the need to store paper documents.

However, an EDM official stated that some imaging capability will always be needed since only contracts, contract modifications, government bills of lading, and payment vouchers are being captured and stored in the EDA database. For example, invoices and correspondence are not being captured and stored in the EDA database. As illustrated in figure 4, the electronic images of contract documents available via EDA can be retrieved and viewed by DFAS-Columbus personnel and other users of DOD's NIPRNET, but the needed data on the document still must be manually entered into the appropriate systems.

¹³In addition to contracts and contract modifications, EDA also provides electronic access to government bills of lading and payment vouchers.

Figure 4: Electronic Document Access



^aThese activities are also performed by other DOD components.

EDA is currently being used on a limited basis by DOD to view contracts, modifications, and other documents via NIPRNET and is beginning to reduce the amount of paper documents being exchanged. DFAS-Columbus is currently working with the military services and DLA to expand the EDA database by putting more of their documents on the system. We were told that over 100,000 contracts, representing all Services and DLA, have been loaded into the EDA database as of December 1997. DFAS has reached an agreement with each of the Services and with DLA to use EDA exclusively for contracts issued by some of the largest contract writing systems. Thus, as shown in figure 4, EDA will eliminate the need to mail paper contracts to many DOD locations. By accessing the contract from EDA, these locations will avoid not only the potential problems involved in mail delays and losses but the contract they see via EDA will be a clear original, not a photocopy, which can be difficult or impossible to read.

According to the DFAS program manager for EDA, as of September 30, 1997, EDA is expected to cost about \$2.7 million and is scheduled for completion in December 1998. EDA began in April 1996 and is funded as part of EDM.

Electronic Data Interchange

Electronic Data Interchange (EDI)¹⁴ is the computer-to-computer exchange of routine business information using standardized data formats. For nearly three decades, EDI has been popular among large companies because it saves money that otherwise would be spent processing paper and rekeying data. DOD, realizing that EDI technology could save the department millions of dollars annually, initiated the EDI program in May 1988 to create paperless business processes for exchanging information between DOD activities and industry. As part of this DOD initiative, DFAS initiated this program in October 1994 and established an electronic commerce program office in March 1995 to support its procurement and payment processes.

Various DOD activities are working together to ensure that the EDI initiative will work on their individual systems. However, the development and implementation of EDI is made more difficult because of the hundreds of nonstandard, nonintegrated computer systems involved. To implement EDI, each system's data must be individually converted to a standard format to be transmitted. In addition, the transmitted data must then be converted from the standard format to the format used by the receiving system.

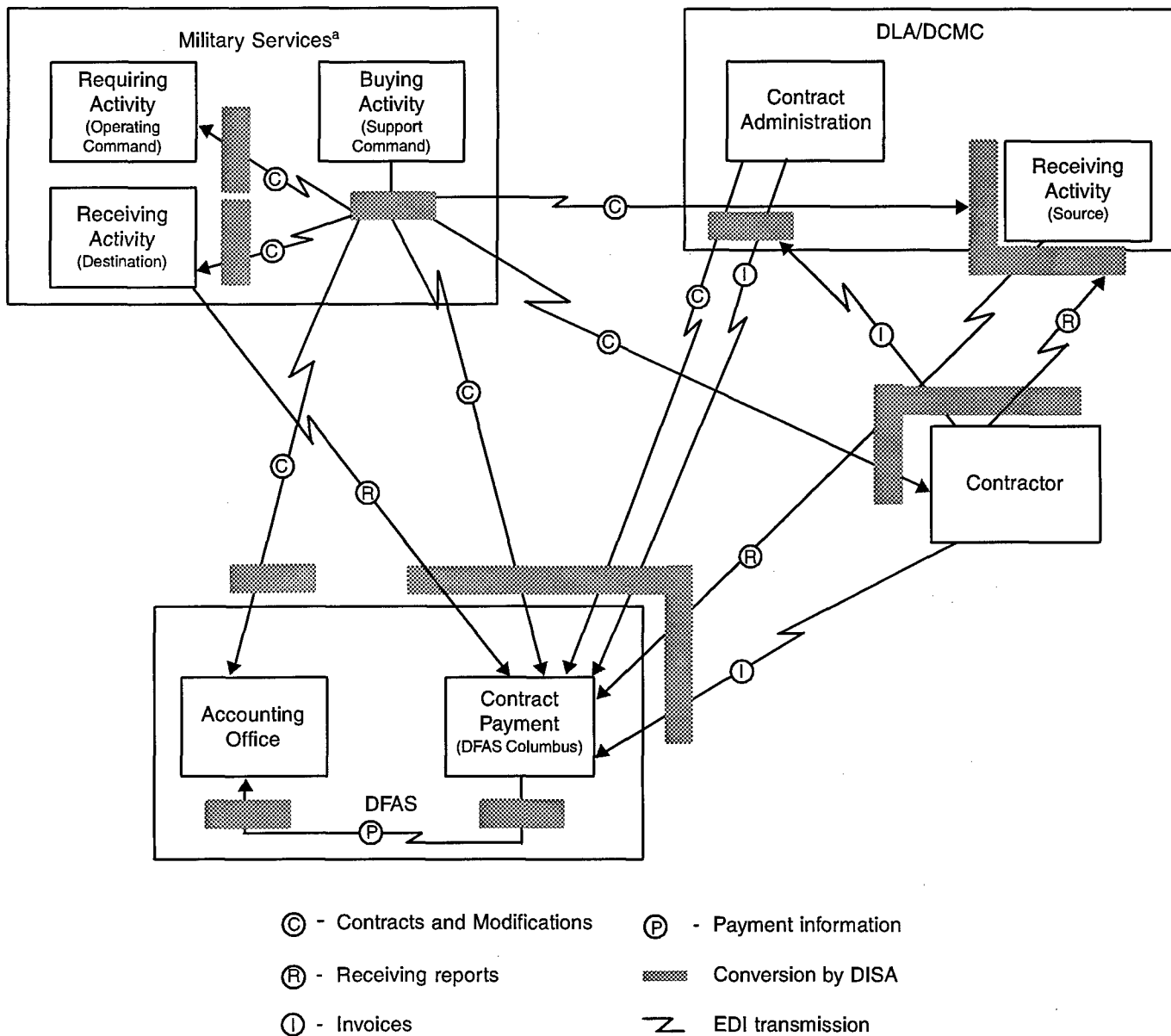
¹⁴EDI is one initiative included in Electronic Commerce (EC). EC, which is the electronic exchange of the information needed to do business, embraces many technologies, including electronic mail, computer bulletin boards, and electronic funds transfer.

For example, DOD is using EDI to support its procurement processes. DOD has approximately 76 nonstandard procurement systems generating contractual documents and has begun working with 9 of the largest systems to convert their data for electronic transmission. Once converted, this information will be sent, via EDI, to one or more of the approximately 150 accounting systems, MOCAS, and various other contractor and DOD systems where the transmitted information must then be converted into a form useable by them.

As illustrated in figure 5, the existing contractor payment processes related to the dissemination of contract and payment data between the procurement, accounting, and payment systems will become largely automated for those systems that will use EDI technology to transmit and receive data. However, because DOD's systems were not developed with the EDI standard format, the use of EDI will require a conversion¹⁵ process for DOD's numerous nonstandard systems. Using conversion and EDI technology, invoices, and receiving reports—traditionally conveyed in paper form—can be transmitted electronically between computers without human intervention.

¹⁵The process of "conversion" enables systems using different, nonstandard EDI formats to do business. As used in this report, conversion is the mapping from one system's nonstandard EDI format to a standard format, and then from the standard format to another system's nonstandard format.

Figure 5: Electronic Data Interchange



^aThese activities are also performed by other DOD components.

As systems increasingly implement the EDI standard formats, the extensive conversion process required for today's many nonstandard systems will be reduced and efficiency improved. Where EDI is used, it will eliminate duplicative manual input—the source of many of the errors in the current process of getting information into the procurement, accounting, and contract payment systems.

As of September 30, 1997, approximately 80 DOD contractors were approved to use EDI to transmit invoices to MOCAS; however, only about 50 contractors were actually transmitting invoices using EDI at that time. In addition to invoices, some contract data are also being transmitted through EDI. Two of the nine largest procurement systems are currently electronically transmitting contract data to MOCAS. Six of the remaining seven systems are scheduled to be using EDI to transmit contract data to MOCAS by the end of 1998. The remaining program is scheduled to transmit contract data using EDI in 1999. These nine procurement systems account for approximately 90 percent of all contract actions.

Even when the procurement systems are on-line, not all data can be converted and transmitted using EDI. Presently, about 15 to 20 percent of all DOD contracts contain one or more nonstandard clauses that cannot be transmitted using EDI. For example, a nonstandard contract clause could say that contractor employees will only be paid local mileage for trips that exceed 50 miles. Until the nonstandard clause issue is resolved, DFAS-Columbus personnel will need to review a paper copy of the entire contract or view the contract via EDA and/or EDM. DOD is currently working to standardize the nonstandard clauses, and expects to have this issue resolved by June 30, 1998.

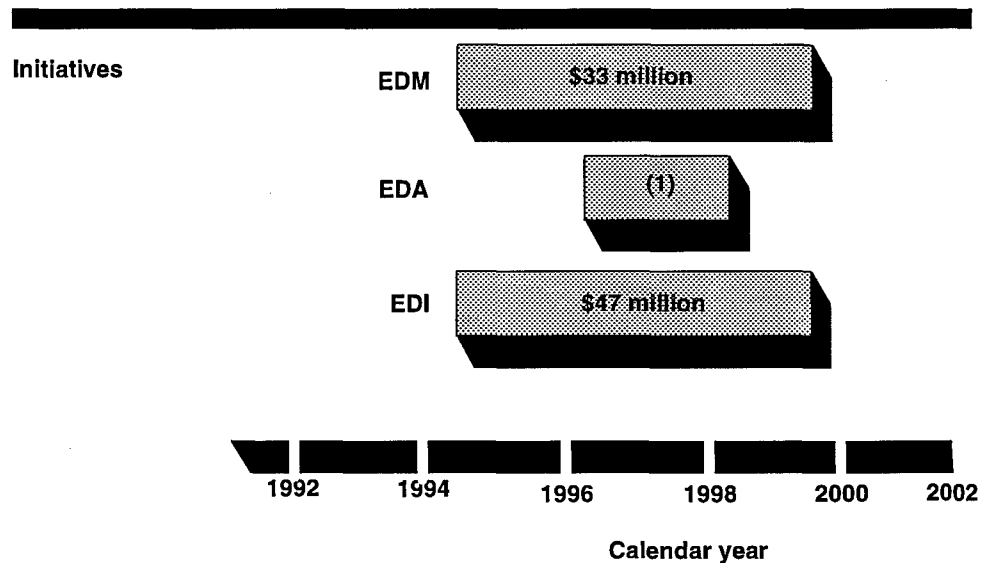
In addition, EDI is not yet being used to transmit receiving report information. Traditionally, a contractor prepares the receiving report and submits it to a DOD official for verification of the receipt of the items purchased. The receiving report is then sent to MOCAS. DFAS is currently working with some contractors to convert receiving report data to the EDI standard. This capability is expected to be fully operational by the middle of 1998.

According to the EDI program manager, as of September 30, 1997, DFAS plans to spend \$47.1 million to develop and implement EDI for its centers and accounting offices over the 5-year period beginning in fiscal year 1995 and ending in fiscal year 1999.

Schedule and Costs of Short-term Initiatives

As shown in figure 6, DOD plans to spend about \$80 million from fiscal years 1995 through 1999 developing and implementing the three short-term initiatives. This estimate includes contractor, personnel, and training costs.

Figure 6: Schedule and Costs of Short-term Initiatives as of September 30, 1997



(1) Approximately \$2.7 million cost is included in EDM.

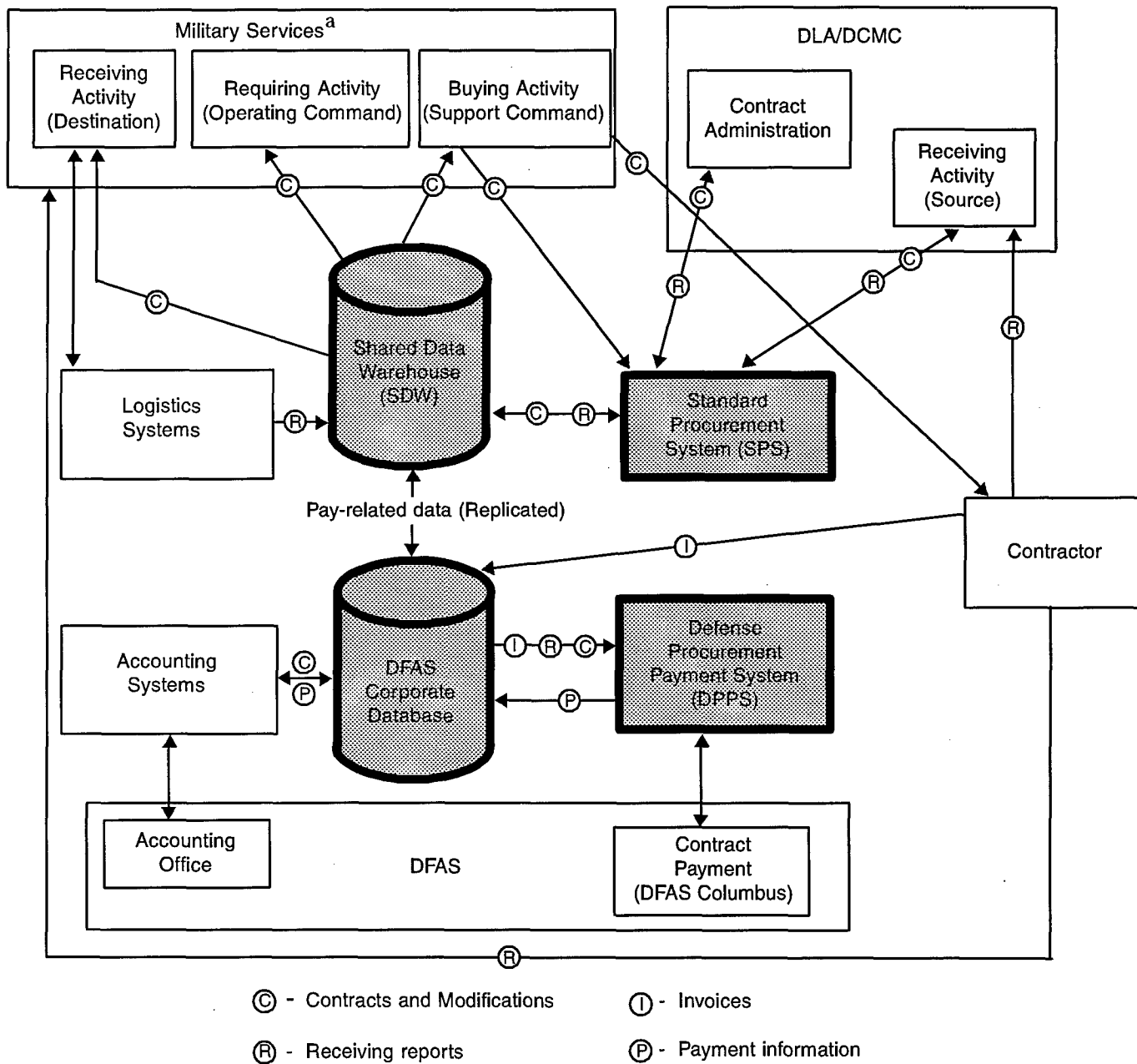
Long-term Initiatives

The four long-term initiatives—Standard Procurement System, Defense Procurement Payment System, Shared Data Warehouse, and DFAS Corporate Database—are aimed at moving DOD's contract payment process toward an integrated system using standard data, where a single copy of the official records is available to all users. The short-term initiatives discussed previously will all play a role, to some degree, in DOD's long-term contract payment strategy. The scanning and image storage features of EDM will be used as part of the future payment system. However, because they are still in the process of analyzing contractors' proposals, DOD officials are uncertain if they will use EDM's foldering and workflow processing features. As currently envisioned, EDA will be used in conjunction with DOD's planned Standard Procurement System to produce a "picture" of the contract for all authorized users to view as necessary. Finally, EDI will be used by all the long-term initiatives as the vehicle to transmit and transfer data among the systems and databases.

As illustrated in figure 7, DOD plans to significantly change its contract payment process to conform to its vision of the future system. The lines in the figure indicate the numerous paper documents whose data must be electronically transmitted for the contract payment process to be paper free, such as contracts, contract modifications, receiving reports, and invoices. While these initiatives move DOD closer to a paper free environment, they will not allow DOD to meet the Secretary of Defense's recently established goal of a paper-free contracting process by the year 2000, since three of the four long-term initiatives are not scheduled for completion until the end of fiscal year 2001.¹⁶

¹⁶See footnote 4.

Figure 7: DOD's Future Contract Payment Process



Standard Procurement System

The objective of the Standard Procurement System (SPS) is to establish a fully functional automated procurement information system, which will be used to prepare procurement contracts and be used by contracting officials for contract administration. SPS is planned to replace DOD's manual procurement systems and about 76 unique automated procurement systems that are used to prepare contracts. These systems had been developed over the years to meet individual mission needs using nonstandard processes and data and could not communicate well with each other or with MOCAS. Although some of these systems were able to transmit limited contract information to MOCAS electronically, hard copy paper contracts still had to be mailed to DFAS-Columbus before contract data, which is necessary to make a payment, could be entered into the system. As described in the background section of this report, the reliance on paper documents, such as contracts and contract modifications, and repetitive manual data input are major causes of disbursing problems.

SPS will also be the system used by contracting officials to monitor and administer contracts. Currently, contracting officials have to rely on MOCAS to provide them the information they need to accurately account for the contracts. However, MOCAS is usually not provided with information that identifies the cost of the work accomplished with a specific funding source. Therefore, DOD is unable to ensure that payments are being made from the appropriate funding source. Accurate payments can only be made if accurate and complete data are available—regardless of which system is used.

DOD officials stated that this technology initiative is expected to standardize procurement business practices and data elements throughout the department and provide benefits to the procurement and accounting communities by providing timely, accurate, and integrated contract information. Using SPS, the goal is that required contract and contract payment data will only be entered once—at the source of the information and be stored in the Shared Data Warehouse (another initiative described later in this report) for use by the entire procurement community. This is intended to result in more efficient management of contracts, standard contract business practices and processes, and less data entry and paper handling—a key factor in contract payment errors. SPS is planned to improve the procurement community's ability to manage contracts from pre-award through contract closeout.

The SPS program started in January 1994. The procurement software is a version of American Management Systems, Inc. (AMS) commercial

software that is being tailored for DOD. The AMS contract was awarded in April 1997. SPS began deployment (installation, training, and deployment assistance) in May 1997. As of September 30, 1997, SPS was available to 2,535 users out of a planned total of 43,826. According to the program manager for SPS, as of September 30, 1997, the program development and implementation is expected to be completed by September 30, 2001, at a cost of about \$295 million, including \$20 million for the Shared Data Warehouse.

Defense Procurement Payment System

The Defense Procurement Payment System (DPPS) is intended to be the single standard DOD system for calculating contractor payments¹⁷ and generating accounting records. The system, as designed, will replace the contract payment functions currently in MOCAS. It is expected to standardize and improve contract payment processes by computing timely and accurate payments and making the disbursement data available to DOD entities responsible for procurement, logistics, and accounting.

DPPS is expected to improve payment process efficiencies by (1) providing a single system that DFAS can use to validate funds availability, (2) reducing DFAS' reliance on hard copy documents, and (3) eliminating manual reconciliations. DPPS will operate in an on-line, real-time environment—providing up-to-date contract and payment information. To calculate and schedule payments, DPPS will rely on the DFAS Corporate Database (another initiative described later in this report) for the needed contract and receiving report information. Contract payment information generated by DPPS will also be stored in the DFAS Corporate Database. Contract payment information needed by contracting officers to administer the contracts will be duplicated from the DFAS Corporate Database into the Shared Data Warehouse for their use.

The DPPS program started in September 1995. DFAS plans to award a contract for DPPS by April 1998. DFAS also plans to procure a commercial off-the-shelf software package to compute entitlements and support the DPPS accounting functions. According to the DFAS program manager for DPPS, as of September 30, 1997, full DPPS deployment is expected by August 31, 2001, and the total program cost is reported to be \$46 million. In commenting on a draft of this report, a DFAS official said that the program costs have been recalculated and as of December 31, 1997, they were

¹⁷DPPS will also be DOD's standard procurement payment system for calculating vendor payments, grants, and other entitlements.

estimated to be \$114 million, and the system is expected to be completed by April 15, 2002.

Shared Data Warehouse

The Shared Data Warehouse (SDW) is a DOD initiative that is intended to be the single database containing the official procurement records needed to support contract placement and contract administration functions in SPS. Although DOD officials agree that the information produced in the accounting and procurement communities must be shared with each other, they have not finalized their plans on how or to what extent they will do this. SDW is designed to support the complete contract cycle, from initial concept and contract award through contract closeout.

All contract information and contract modification information created in SPS will be stored in the SDW database. Original receiving report information will also be electronically entered into SDW from the existing logistics systems. Contract payment information generated by DPPS, which is originally stored in the DFAS Corporate Database, will be duplicated in SDW for use by the contracting officers to administer contracts. In addition, some procurement information, such as contracts, contract modifications, and receiving reports, which are stored in SDW and are needed by DFAS to compute contract payments, will also be duplicated and stored in the DFAS Corporate Database. Although SDW and the DFAS Corporate Database will contain duplicate information, it is likely that some information will not be shared. For example, some nonfinancial information, such as special shipping instructions and dates, would not be needed for contract payment and may only be stored in SDW.

The SDW database is intended to significantly improve efficiency, reduce accounting errors, and support the payment process. SDW is expected to provide improved data integrity and accuracy and allow for a single point of data entry and for storage of procurement data, therefore reducing the need for manual re-keying of procurement data into multiple, nonstandard systems.

According to the deputy program manager for SPS, as of September 30, 1997, SDW is to be completed by the end of fiscal year 2001 at a cost of \$20 million, and is funded and developed as part of SPS. The SDW contract was awarded to Boeing Information Services and DLA's System Development Center. They are currently developing the prototype database and completed their initial testing by loading a limited amount of contract data from MOCAS as of October 1997. An SDW official said that the

test had been successful and, as new information is loaded into MOCAS, these data are duplicated into SDW for future use. The SDW program manager expects the procurement community to begin using the SDW information for decision-making by early fall of 1998. In addition to loading the information from MOCAS, they are also working to accept contracts and modifications, receiving reports, and other data directly from the procurement and logistics systems.

DFAS Corporate Database

The DFAS Corporate Database, as conceptualized, will be a single DFAS database that will be utilized by all DFAS systems. This shared database will contain all DOD financial information required by DFAS systems and will be the central point for all shared data within DFAS. This database will also contain all the data needed for DPPS to calculate contractor payments. For example, the database will include contracts, contract modifications, and receiving report information duplicated from SDW. Contract payment information, created by DPPS, will also be stored in the DFAS Corporate Database, for use by other DFAS payment and accounting systems.¹⁸

The DFAS Corporate Database will be used as a principal source of contract and contract payment information for all of DFAS. While SDW is intended to serve the needs of DLA's procurement community, the DFAS Corporate Database will be used by authorized DFAS system users to support the contract payment and accounting process.

The DFAS Corporate Database is intended to significantly improve efficiency, reduce accounting errors, and support the payment and accounting process. It is expected to improve data integrity and accuracy and serve as a single point of DFAS data entry and storage for procurement data, therefore reducing the need for manual re-keying of data into multiple, nonstandard systems. Although DFAS has not established a firm date, DFAS officials stated that this database will eventually be used as the official accounting records, shifting this responsibility from the accounting offices.

The DFAS Corporate Database program office was established in June 1997. Preliminary planning, design, and prototyping activities are currently taking place. The target implementation date for those aspects of the DFAS Corporate Database needed to support DPPS is May 1998. According to the DFAS Corporate Database program manager, the initial cost to establish the

¹⁸The DFAS Corporate Database will also support many other systems, including civilian and military pay, transportation, travel, and disbursing.

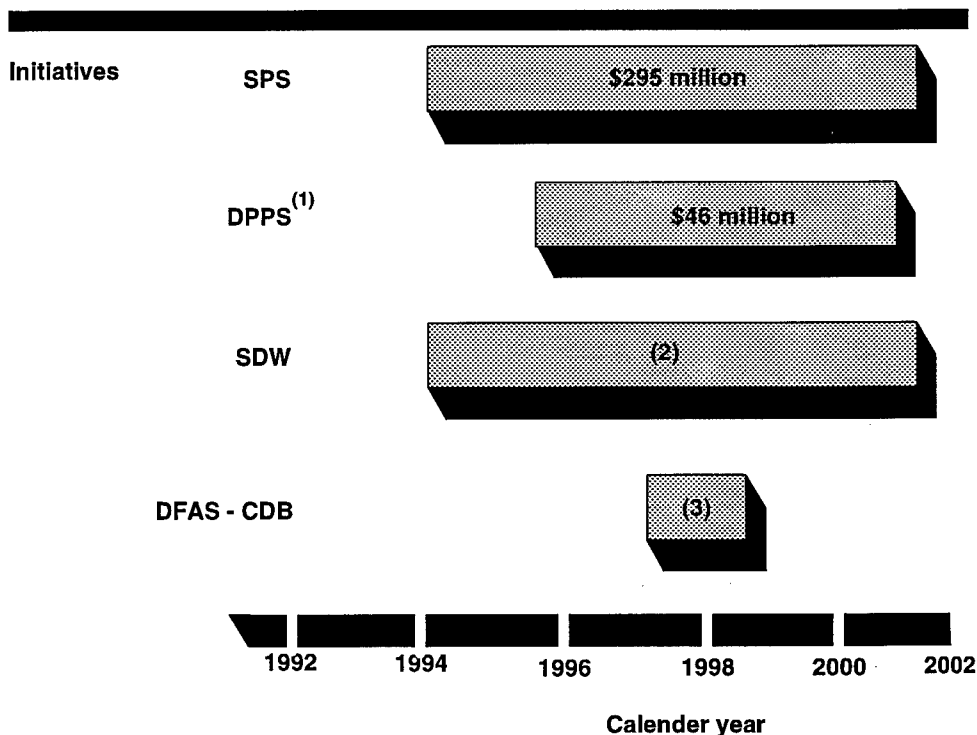
program office and design, prototype, and test the shared database structure is estimated to be about \$300,000 as of September 30, 1997. The costs of accessing the corporate database will be paid by the users.

Schedule and Costs of Long-term Initiatives

As shown in figure 8, DOD expects to spend about \$341 million developing and deploying the four long-term initiatives during fiscal years 1994 through 2001. In commenting on a draft of this report, a DFAS official said that the DPPS program costs have been recalculated, and as of December 31, 1997, they were estimated to be \$114 million, and the program is expected to be completed by April 15, 2002. With this change, DOD now estimates the total program costs for these four initiatives to be \$409 million.¹⁹

¹⁹In commenting on a draft of this report, DFAS officials stated that these costs can be expected to change.

Figure 8: Schedule and Costs of Long-term Initiatives as of September 30, 1997



(1) As of December 31, 1997, program costs were estimated at \$114 million. DPPS is expected to be completed by April 15, 2002.

(2) Approximately \$20 million cost is included in SPS.

(3) Initial DFAS costs are \$300,000.

Agency Comments and Our Evaluation

In commenting on a draft of this letter, Department of Defense officials generally concurred with our description of how these seven DOD initiatives affect the contract payment process. They provided us with some suggested technical changes, which we incorporated throughout the report as appropriate.

However, DOD officials were concerned that the report seemed to contrast the short-term initiatives with the long-term initiatives. DOD stated that the short-term and the long-term initiatives are designed to work in tandem. DOD officials added that the short-term initiatives support the department's achievement of the Secretary of Defense's goal of achieving a paper-free contracting process by the year 2000. DOD officials also stated that the long-term initiatives will bring the department greater benefits over the

long haul, but that the long-term initiatives will take longer to implement and their schedule and cost definitely carry an element of greater risk and more uncertainty.

Our report describes the short-term and long-term initiatives separately and is not intended to contrast these efforts. Also, at the time of our review, DOD had not yet fully defined how these independently managed initiatives will work in tandem. To the extent that relationships between initiatives were identified by DOD during our review, those relationships are incorporated in this report. In commenting on the draft, DOD provided no further clarification or documentation of those relationships.

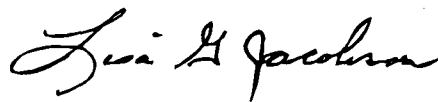
As discussed in the report, regarding the capability of the short-term initiatives to achieve the Secretary's broader goal of having all aspects of the contracting process for major weapons systems paper free, EDM is only accessible to DFAS-Columbus; EDA does not capture all documents, such as the invoice; and the EDI schedule is only for implementation at DFAS centers and accounting offices.

We agree with DOD that the long-term initiatives will take longer to implement and carry a greater risk and uncertainty. It is, therefore, important that as DOD continues its efforts to improve technology it understands and documents the problems in all aspects of the contracting process for major weapons systems and addresses the needs of procurement, logistics, and accounting functions.

We are sending copies of this letter to the Chairman of the Senate Committee on Governmental Affairs; the Chairmen and Ranking Minority Members of the Senate Committee on Armed Services, the House Committee on National Security, the House Committee on Government Reform and Oversight and its Subcommittee on Government Management, Information and Technology; and the Director of the Office of Management and Budget. We are also sending copies of this report to the Secretary of Defense, the Acting Director, Defense Finance and Accounting Service, and the Director, Defense Logistics Agency. Copies will be made available to others upon request.

Please contact me at (202) 512-9095 if you or your staff have any questions about this letter. Janett P. Smith, Roger Corrado, William Bricking, and Jean Lee were major contributors to this report.

Sincerely yours,

A handwritten signature in cursive script, reading "Lisa G. Jacobson".

Lisa G. Jacobson
Director, Defense Audits

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